

KANSAS MEDICAL JOURNAL.

VOL. IX.

TOPEKA, KANSAS, SATURDAY, OCTOBER 2, 1897.

No. 40.

ORIGINAL ARTICLES.

The Mastoid—Its Diseases and Treatment.

By J. E. MINNEY, A.M., M.D., TOPEKA, KAS.

Read before the Academy of Medicine and Surgery, Topeka, Kas., September, 1897.

The mastoid, a teat. It is an irregular conical process of bone. It is a part of the middle ear, and enters into the formation of the temporal bone posteriorly and inferiorly. It is formed of a hard shell of bone on the outside and of diploic tissue within, and contains one or more cavities, or cells. One large cavity is always present, the antrum, and opens into the tympanic cavity. These cavities or pneumatic spaces are lined with mucous membrane continuous with that of the tympanic cavity, eustachian tube, and nasopharynx, and is well supplied with blood. The varieties of mastoid are the sclerotic, pneumatic and diploic. The sclerotic mastoid consists of a dense bony structure, as its name implies, and the antrum alone is generally present, but small at times. In the diploic the antrum is always present and opens into the tympanic space. In the pneumatic the air cells are distributed more or less irregularly throughout the substance of the mastoid, and its interior wall forms the posterior wall of the external auditory canal.

While these forms described are the typical ones, numerous combinations of these forms are present.

There is a cavity generally at the tip of the mastoid. Frequently the outer bony wall or shell of the mastoid is thin; this is

particularly so in children—a fact to be remembered in the surgery of the mastoid. The mastoid antrum is the guide in opening the mastoid, and various rules are given to locate it. The rule I have adopted is to place a large blunt pointed probe in the auditory canal to its depth, and hold it in position. The end of the probe being wrapped with cotton, I then place the trephine on or a little above the tip of the mastoid and angle the trephine so it would strike the end of the probe at the bottom of the canal if it was continued to that point. By following this plan the soft swollen tissues do not mislead the direction; the antrum may be entered, and drainage is secured. An anato-topographical knowledge of the mastoid is necessary, and its relation to other structures should be well understood. But, at the same time, accidents will occur to the best anatomists, and most skilled surgeons, in opening the mastoid. This is due mainly to the uncertain position of the groove for the lodgement of the lateral sinus. The groove, with its sinus, sometimes lies immediately behind the antrum, and an opening cannot be made from behind into the antrum without entering the sinus.

The function of the mastoid is that of a sounding board—for protection to the external meatus—to furnish a deep groove for the lateral sinus and for the attachment of important muscles for the support and movement of the head. The mastoid antrum is a continuation of the tympanic cavity, and fluids in this cavity gravitate into the antrum when the patient lies on his back.

Primary mastoiditis is not uncommon. It is brought on by traumatism, exposure to cold, tubercular trouble, syphilis, la grippe. The most common cause of mastoiditis is

an extension of an inflammation from the tympanum, or the so-called middle ear, yet a chronic suppuration of the middle ear may exist for years without an involvement of the mastoid; and, again, a slight inflammation of the middle ear may infect the mastoid.

The changes produced in the mastoid by inflammations of the middle ear may be a sclerosis obliterating the cells by the new deposit, or a necrosis with or without a sequestrum.

When the area of necrosis is small the dead tissue passes off in the form of pus. This pus finds its way out through the point of least resistance. This may be through the tympanic space, and rupturing the drumhead pass out through the external auditory canal, or through the substance of the mastoid, into the external auditory canal, middle or posterior cranial fossa, or the digastric fossa. In case the cranial cavity is invaded, meningitis follows, either circumscribed or diffuse, or the formation of an abscess. Septic infection also may result through the free anastomosis of the blood-vessels between the pericranium and duramater. The presence of an abscess behind the ear is not always proof of diseased mastoid. Particularly is this true of small children. The abscess may be the result of pus in the tympanic cavity, burrowing outward between the soft tissues and the bony canal.

The prominent symptoms of acute inflammation of the mastoid are pain; slight at first, but increasing in severity until it becomes distressing, and is deep-seated and referred to the mastoid. The pain is increased by deep pressure, the ear stands out and there is swelling, redness and tenderness over the mastoid. At times the pain is referred to the occipital, temporal and supra-orbital regions, with a band-like feeling around the head, and some vertigo. The tongue becomes coated, there are chilly sensations, and the temperature ranges from 99 to 102 F. The bowels are more or less constipated, and a patient with the above described symptoms is a sick man, and should be put to bed and have appropriate treat-

ment, and not be permitted to do business to kill time.

In chronic mastoiditis there may be no pain and no prominent symptoms. The hearing is impaired and examination of the drumhead of the ear involved will show bulging, and on puncturing it the pus will escape. In those cases without pain there are constitutional disturbances pointing to brain abscess, with its usual symptoms of retro-pharyngeal abscess with fixed jaw, or abscess in the neck beneath the sterno-mastoid muscle, preventing rotation of the head. Cases are reported in which pus from the mastoid has dissected its way to the thoracic cavity. It should be remembered that a simple opening into the mastoid or the post-aural abscess is not enough, but that drainage and cleanliness by irrigation must be kept up to prevent infection.

In acute uncomplicated mastoiditis the prognosis is good without operation, if treatment is begun early; and with operation if not delayed too long, until brain abscess has formed or a septicæmia is present.

The treatment is antiphlogistic and operative. When the first symptoms develop, hot or cold applications should be applied over the mastoid—this to be determined by the relief given. In addition, if the uneasiness and pain is not relieved by the hot or cold applications, blood-letting should be resorted to, either by the natural or artificial leech. The blood should be released from over the mastoid process near the auricle. Laxatives should be used, and our preference is the mild chloride of mercury with the sulphate of magnesia, or the latter alone. Sometimes counter irritation will give relief; but vesication should be avoided, as it masks prominent symptoms—swelling and tenderness of the mastoid.

As the pus is likely to escape into the tympanic cavity, the drumhead should be examined, and, if bulging, it should be incised freely to let the pus out. There is but little danger of making the opening too large, for there is generally trouble in keeping the wound open to let the pus continue to escape. If the pus is escaping from the mastoid through this route, the pain is soon

relieved, and cleansing the ear and peroxidizing it as early as the sensitiveness of the canal will permit, or, in other words, keeping the ear clean and the drainage free constitutes the after treatment. While the pain is severe anodynes will have to be used at times, and frequently the morphine and atropine are the sheet anchors for the relief of the pain.

Should the treatment outlined not control the pain within a few days, the mastoid should be opened. I have seen cases in which it appeared that an operation was inevitable, finally controlled by palliative measures. On the other hand, a subsidence of the disease was followed by a relapse, and operative procedure had to be instituted when we felt sure that the disease was controlled.

The following rules, indicating an operation on the mastoid, laid down by Bishop, covers the ground fairly well, and are conservative, and we recommend them:

The mastoid process should be opened:

1. When there is acute inflammation of the bone that resists palliative treatment.
2. When repeated swellings and abscesses occur.
3. When there is a bulging of the posterior and superior wall of the meatus with suppuration of the middle ear.
4. When there is a fistula.
5. When there are severe pains in the same side of the head as the diseased ear and resisting all other treatment.
6. When a foul otorrhœa can be cured by no other means.

The preparation of the patient and the instruments for this operation is the same as for any capital operation.

The consensus of opinion favors the use of the chisel in mastoid operation. I use the trephine in the simple operation.

There are various classifications of mastoid operations, but that given by Bishop, I think, covers the ground, viz.:

1. The simple mastoid operation.
2. The radical operation.
3. The modified operation.

The simple operation is where the mastoid is opened without penetrating the tym-

panic cavity. An incision is made with a strong scalpel, beginning well down on the point of the mastoid, cutting upward and hugging the bone along the site of the incision, one-fourth of an inch behind the auricle, and from one to two inches in length. The bleeding vessels can be controlled by torsion. The periostrium should then be separated at the point of entrance and the mastoid opened, the lips of the wound being held apart, where the chisel is used; but this is not necessary with the trephine—the direction of the opening being in a line to which your attention has been called in this paper. If pus is found, the cavity should be cleansed by gentle syringing, peroxidizing and again irrigating or syringing, dried and dressed, as any serious wound, using a drainage tube or, preferably, a tent made out of candle-wicking, to keep the wound open. The wound should be dressed according to the indications—once a day, or every second day, is usually sufficient. If there is necrosis, the dead bone must be scraped out. The opening in the bone must be large enough to see the whole interior of the process. Should the lateral sinus be opened, the hemorrhage will be free, producing a chill in the operator, but the danger is not very great. The opening should be tamponed with iodoform gauze, and further operation deferred for two or three weeks.

There is but little danger of wounding the facial nerve, although it should be kept in mind.

The patient should be kept in bed, and kept quiet for some days, or even weeks—according to the progress of the case.

The radical and modified operations on the mastoid are required more particularly in complicated diseases of the mastoid, and will not be considered in this paper. And, suffice it to say, that disease of the mastoid resulting from constitutional disease or an extension of catarrhal troubles from adjacent organs, must be treated etiologically.

We will speak of the radical and modified operations at another time, if agreeable to the society.

Kansas Medical Journal.

PUBLISHED WEEKLY

BY THE UNION PUBLISHING COMPANY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:

Per annum, in advance..... \$1 00
Single copies..... 15 cents

Subscription may begin at any time. The safest mode of remittance is by bank check or postal money order drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers by forwarding in Registered Letter. Address

UNION PUBLISHING CO.,
TOPEKA, KAS.

W. E. McVEY, B.S., M.D., EDITOR.

COLLABORATORS:

J. E. MINNEY, A.M., M.D., Topeka, Kas.

S. G. STEWART, M.D., Topeka, Kas.

J. C. McCLINTOCK, A.M., M.D., Topeka, Kas.

M. B. WARD, A.M., M.D., Topeka, Kas.

W. S. LINDSAY, M.D., Topeka, Kas.

JOS. B. CONNELL, B.S., LL.B., M.D., Kansas City, Mo.

Topeka, Kansas, Saturday, Oct. 2, 1897.

Functional Insomnia

May be divided into two varieties, that which is the result of fatigue of the neuron of the cerebral cortex, and that which is produced by the presence of some foreign substance in the blood, which acts as an irritant to the delicate structures of the brain and spinal cord. The symptoms of the first variety are that sleep is delayed until a very late hour in the night or early morning. When the patient rises he is unrefreshed.

This kind of functional insomnia is found more or less among brain workers than body workers. However, it is not necessary that the patient is a brain worker, but that some particular train of thought or idea should predominate and fastened itself upon the neurons of the cortex, by which the neurons of this portion of the gray matter of the brain fail to close from the memory which

is so fixed in the neuron as to act as an irritant, hence the wakefulness and the unrest. In natural sleep the neurons of the organism are all closed. The circulation through the brain is diminished; the action of the heart is feeble; the muscles are relaxed; the viscera quiet; consciousness is in abeyance; cogitation has ceased.

But if there is an excess of blood in the cortex sleep is impossible until the brain is released. The medicine which is most indicated in this form of insomnia is hydrate of chloral. The chloral diminishes the circulation through the brain, enfeebles the action of the heart, slows the pulse and diminishes the nubic respiration and produces gentle and quiet sleep. But if medicines are not wished for by the patient some kind of exercise is indicated which will invite the blood from the brain to the muscles or food may be taken into the stomach for the purpose of inviting the blood to this organ. When the mind has long been intensely fixed upon some misfortune, a diversion in the way of new scenery is indicated. Hunting or fishing are beneficial, but it is best to have some one accompany the patient, as he may be tempted to turn the gun upon himself, or jump into the water and drown himself, which is too often the sequel of this form of functional insomnia.

In the other form of functional insomnia the patient readily falls to sleep after retiring, but wakes and becomes restless within a few hours, and is unable to go to sleep again for several hours. In such cases there is some element in the blood which has failed to be exerted by the kidneys or some other glandular structure. This kind of insomnia is peculiar to the uric acid diathesis and to those who suffer from rheumatism. Sulfonal is the best remedy in this class of cases. It is slower in its action, but more prolonged than chloral hydrate and does not produce anaemia. Out door exercise or something to increase oxidation is indicated for permanent effect.

It is reported that recently the students of a Cleveland medical college dressed a

cadaver and took it out for a time, frequenting a number of saloons and scaring people on the street. Such proceedings are certainly out of joint with the times and the dignity of the profession to which they aspire. The college in question would do well to investigate the matter, and put the students implicated in the "sweat box" for a sufficient time to quell their turbulent spirit.

WE often wonder if the spirit of fraternity which characterized the profession in the State of Kansas is extinct. It certainly is not so manifest as a few years ago. Possibly the hard times has made us all feel that the "root hog or die" proposition was applicable, and that we could best concern the interests of the profession in taking care of ourselves. One of the worst features of the present is the apparent lack of interest in society work. Societies, both local and State, are poorly attended in comparison with the attendance of former years. Societies which a few years ago were in a flourishing condition are many of them now almost extinct from lack of interest and attendance.

WE frequently notice in pharmaceutical journals letters of criticism on prescriptions from physicians. Physicians often make mistakes, so do pharmacists, but fortunately for the patients, between the two there seldom results great harm. The main point to be observed in writing a prescription is first to have the formula correct, then to have it plainly written and properly worded so that there can be no mistake in interpretation. One very important thing to be remembered is to write good English if one can't write *good* Latin.

The hospital facilities afforded the attendants at the Fall Festival were certainly ample. The militia were supplied with two hospitals with their regular hospital corps

and surgeons, while the general public were taken care of by the general hospital with a corps of surgeons and assistants furnished by the Kansas Medical College. There was plenty of work for both, and so far as we can learn there was to clashing.

THE following communication from the United States Department of Agriculture, Division of Chemistry, deserves the attention of physicians of the State. A request for blanks will be readily complied with.

WASHINGTON, D.C., Sept. 17, 1897—*Dear Sir:* Under authority of Congress, the Department of Agriculture is investigating the extent and character of food and drug adulterations, and is desirous of securing all the information possible on the subject. Having been appointed special agent to inquire into and report upon this matter, the undersigned writes to request that you kindly furnish the department (under the inclined franks) all the information you have in regard to adulterations, together with any suggestions as to the best remedy for the evil.

1. Do you know of any new adulterant? If yes, state what, and how used.
2. Would a national food and drug law assist in preventing adulterations?
3. Would uniform food, drug, and pharmaceutical laws tend to promote efficiency and purity?
4. Please suggest what would best promote the interests of consumers and legitimate manufacturers and dealers.
5. What is your opinion as to the extent of damage done legitimate business by imitation of brands, packages, etc.?
6. To what extent do sophistication, misbranding and injurious adulteration exist?
7. Have State laws aided in preventing adulterations? To what extent?
8. Would a national law assist State-officials in properly executing the local laws?
9. Have adulteration, sophistication, and misbranding increased or decreased?

Prompt replies to the above, together with any other information or suggestions, will be highly appreciated.

A. J. WEDDERBURN,
Special Agent.

Topeka Academy of Medicine.

The Topeka Academy of Medicine and Surgery met in regular session Monday evening, September 13, 1897, at A. O. U. W. hall. The president, Dr. Ida C. Barnes, presided.

The following members were present: Drs. R. E. McVey, S. G. Stewart, B. D. Eastman, J. E. Minney, J. C. McClintock, W. A. Wehe, R. S. Magee, Ida C. Barnes, Harriet E. Adams, H. L. Alkire, W. H. Richter, Debora K. Longshore. Visitors, Dr. S. A. Johnson and medical students.

"Cyst of Round Ligament; Report of Case"—(Dr. J. C. McClintock).

Discussion—S. G. Stewart: I had the privilege of witnessing the operation. The interesting point in the case to me was the fact of the cyst being one of the round ligaments of the liver. It was very large, holding about one and one-half gallons of water.

Dr. McClintock: This case is a rare one, and on that account is not so very valuable. I know of no one who has seen a cyst of the round ligament. The thing that interested me was the failure of diagnosis. The first physician, the one called in her childhood, discovered no tumor or any enlargement; neither was the tumor discovered when the tapping was done; and later the physician who called me missed the diagnosis, and when we removed it we both called it an ovarian cyst. I am willing now to say that it was a cyst of the round ligament of the liver. The operation was such a formidable one that I did not examine the uterus. We were satisfied to get the tumor out. I did not then know that she was pregnant, and did not know it until her doctor wrote me of it after delivery.

"The Mastoid, Its Diseases and Treatment"—(Dr. J. E. Minney).

Discussion—Dr. Alkire: I enjoyed the Doctor's paper very much. I was in hopes he would enter into the discussion of some of the operations he left out. One must be careful of our diagnoses and not administer anything that will deaden the pain. The

amount of burrowing and the amount of pressure will depend largely upon the character of the bone. In some bones the cells are very large and the plates very thin. In others we will find the bone thick and small cells. I know of no way of telling the difference beforehand. One should be slow in giving anodynes. I believe in free intestinal drainage. Applications of hot and cold water usually will give relief. If not, there is good evidence that an operation should not be delayed.

Dr. Magee: This is a subject in which I am very much interested. These cases interest any one that has them. They are serious. They bear free irrigation not only of the intestinal, but also of the auditory canal. The drumhead will bulge out in a way that is very characteristic. You will not find a set line of symptoms. One symptom that is almost always present is vertigo. Most of these patients have irritable stomachs. This may be due to the drugs taken, and in many cases to interference with the pneumogastric. Don't allow these cases to be poulticed; it does little good and favors the formation of pus. When recovery takes place they seldom ever have any further trouble with that ear.

R. E. McVey: Our friend talks about poultices making pus. I don't know how it favors the formation of pus, unless the poultice has the power of creating pus.

Dr. Minney: The use of a poultice relaxes the tissues and makes them boggy, masking the condition. The water is used hot and kept on a few minutes then taken off. Dr. Alkire calls attention to the use of anodynes, and what he says is true to a certain extent, but in any case where the pain is exceedingly intense, and it usually is, the patient must have it or he will have another doctor. Morphine with atrophine I ordinarily use. The greatest danger is in opening into the antrum, but if that accident does happen tamponning gives relief. The majority of cases get well without operating. Out of sixty cases about twenty need operating. When the brain becomes infected I have never seen a case get well. I have seen some six cases and all have

died. I have here a cyst which was of interest to me, as it is the only one of the kind I ever saw. About ten days ago I was called in the morning to see a woman who was having a severe uterine hemorrhage. She thought she was about three months pregnant, and had been very well up to that morning, when on waking she discovered the hemorrhage. She had a child of seven years, and had two abortions at about this stage of pregnancy since the birth of her child. Examination showed that the uterine contents should be removed as soon as possible. On passing my two fingers into the os I felt what I took to be the ovum partly expelled. This was very easily removed, and proved to be this cystic body. It was as you see it now, transparent and about the size of an egg. Its membrane was clear and colorless, except at one point, which was red and evidently was the point of attachment. Besides this cyst there was a placenta, but there was no foetus to be found. I consider this to be a blasted pregnancy in which the membranes had been retained after the death of the foetus, until the complete absorption of the foetus.

The Surgical Treatment of Chronic Gastric Ulcer.

From the St. Louis Medical Review.

A most valuable paper on this subject is contributed by Mikulicz to the *Berliner klinische Wochenschrift*, No. 23 to 25, 1897, suggested apparently by von Leube's exhaustive thesis upon the limitations and results of the medicinal treatment of comparatively recent, non-complicated ulcers of the stomach (*Therapeutic Gazette*, September 15, 1897.)

Even in those cases operative intervention has been suggested by both physicians and surgeons. In a case of Leucke's the operation was undertaken for the relief of intolerable gastralgia and exhausting dyspepsia. By means of a gastro-enterostomy this patient was cured.

Hitherto cases which have come to the surgeon have been in such a depressed con-

dition from starvation and bleeding that active intervention of any kind was extremely dangerous. None the less the results have been surprisingly good. They would doubtless be much better were operation undertaken at earlier period.

In considering the advisability of operation for non-complicated ulceration of the stomach, the surgeon should give due weight to the danger of operation and should be assured that by the use of the knife the patient can be definitely benefitted. Unfortunately statistics do not enable us to judge accurately as to the mortality of gastric ulcer not subject to operation. The mortality figures vary from 3 to 30 per cent. It is fair to conclude from the result of autopsies that three-fourths of all gastric ulcers heal spontaneously. Many of these cases, however, ultimately die because of stenosis from cicatricial contraction or from phthisis greatly aggravated by the ulcer, or from malignant disease.

Gerhard states that in from three to five per cent of cases death occurs from hemorrhage; in thirteen per cent from perforation in ten per cent from stenosis of the pylorus.

Debove and Raymond give a mortality of fifty per cent. In 100 cases they find that mortality occurred from tuberculosis in twenty, from peritonitis in thirteen, bleeding in five, inanition in five, and other complications in seven.

Mikulicz holds that when all complications are considered the mortality will range between twenty-five and thirty per cent. He believes that surgical intervention is always indicated when internal treatment proves futile.

As to the mortality of operation: Of 238 cases of pyloric stenosis and gastric ulcer without serious complication, operated on in the clinics of Billroth, Czerny and Mikulicz there was a mortality of 21.8 per cent. The operations performed were resections of the stomach, gastro-enterostomy and pyloroplasty. The mortality of the resection cases was greater than that of those subjected to gastro-enterostomy and pyloroplasty. It is worthy of note that defects in technique are rarely the cause of death, but

rather this is attributable to the extremely reduced condition of patients.

It may be said as a result of this statistical study that the danger to which a patient with an open uncomplicated ulcer of the stomach is exposed is decidedly greater than the danger he would run if subject to a well directed operation.

When medicinal treatment has failed operation is imperatively demanded. Surgeons heretofore operated mainly for the relief of the pyloric stenosis, whether this was due to a cicatrix of an old ulcer or was associated with an open sore. It is proved beyond controversy that relief of the stenosis is followed by healing of the ulcer, the stomach completely recovering its motor and secretory functions in a few months at most. These patients gain rapidly in weight and strength and become completely able-bodied. A similar success attends the operations on ulcers not complicated by stenosis. Kuester's two cases in which intervention was required because of bleeding recovered very promptly, as did two patients operated on by Mikulicz.

Gastro-enterostomy is credited with having healed a number of discharging gastric ulcers, but to this operation Mikulicz greatly prefers pyloroplasty. He found in a number of cases the pylorus greatly narrowed, not from cicatricial contraction, but from tetanic spasm of the muscular fibre. In two cases the ulcer was first excised and the fresh surface covered by mucous membrane, which was sutured over it, after which pyloroplasty was performed. In the four cases operated on the quantity of hydrochloric acid markedly diminished. Before operation it was double the normal, but rapidly lessened; in two cases it was normal within five months.

It is evident then that gastric ulcer can be cured by surgical intervention without attacking the lesion directly, but by making the rapid and complete emptying of the stomach into the duodenum possible; whether the narrowing be due to scar tissue or to muscular contraction, pyloroplasty is equally indicated. As to the choice of operation, resection of the pylorus and a portion of the stomach is by all odds the most dangerous

and least authorized method of radical cure. Circular resection should be abandoned in cases of ulcer, unless there is a suspicion of carcinoma. The author has observed five such suspicious cases, in which he performed the operation.

□ As to the choice between gastro-enterostomy and pyloroplasty in the treatment of open gastric ulcer, since both accomplish rapid and complete emptying of the stomach contents into the bowel, the preference should be given to that which is easier and least dangerous. Hence pyloroplasty is distinctly to be preferred. It is not indicated in all cases, however. Thus, if the pylorus is fixed, or if its walls are densely infiltrated the operation will be extremely difficult.

As to the technique of the operation, the anterior wall of the stomach and duodenum should be incised to the length of two to two and a half inches. The suture of this wound at right angles to its length makes a wide communication and one which facilitates the physiological evacuation of the gastric contents.

This cannot be said of gastro-enterostomy, following which there may be only established a vicious circle, the stomach contents passing into the bowel and thence toward the pyloric valve, rather than away from it, and returning to the stomach. That this has actually occurred is shown by autopsy, a spur formation preventing the ingested matter from passing into the ileum. There is no certain way of preventing this spur. This vicious circle Mikulicz attributes to muscular spasm rather than to spur formation. In one case reported by the author in which this spur-formation was attended by intractable vomiting, a second abdominal section was performed and entero-anastomosis was established in a distended loop of bowel between the seat of gastro-enterostomy and the pylorus and a loop of gut below this point. This method of procedure is the only certain one by which the vicious circle may be prevented. When at the time of operation the stomach is found markedly atonic, gastro-enterostomy should, as a rule, be supplemented by this second operation.

The surgical complication of gastric ulcer which has been most frequently subject to operation is pyloric stenosis. The indications for operation and the technique are well known. Another complication requiring operation is adhesion of the base of the ulcer with the parietes or surrounding organs. Loose adhesions usually cause a chronic mild perigastritis—sometimes violent gastralgia.

The diagnosis between simple gastralgia and gastric ulcer is extremely difficult. Operation and freeing of adhesions cause in these cases complete relief of pain.

Cases in which after adhesions to the parietes the ulcer gradually penetrates are readily recognized. A hard tumor is formed which can be readily mistaken for carcinoma. It is usually associated with symptoms of ulcer, and the pain is extremely violent, and is greatly increased by palpitation of the swelling. Operation is absolutely indicated in these cases. The ulcer, together with the infiltrated portion of the belly wall, should be resected and the resulting wounds closed by suture. Usually the stomach can be dropped back into the abdominal cavity. Of the eight cases collected by the author all were successful.

The most serious complication of gastric ulcer is perforation. From 1885 to 1894 thirty-five cases were operated on, with thirty-four deaths, a mortality of over ninety seven per cent. From 1894 to 1896 sixty-eight cases were operated on, with thirty-six deaths, a mortality of about fifty-three per cent.

The prognosis in these cases depends upon whether the stomach was full or empty. Hence it follows that when perforation is feared nothing should be given by the mouth. Statistics show that cases of cure are four times as numerous when operation is performed in the first twelve hours as when it is postponed. The wisdom of the policy of waiting until the first shock has passed by before resorting to operative intervention is open to grave doubt. This shock is extremely likely to run on to fatal collapse. About eighty per cent of perforating ulcers are placed in the antero belly-wall,

hence are accessible. Some are so placed that they cannot be reached, at times can not even be found. None the less, cure has resulted from peritoneal tampon drainage.

As to treatment, excision is not necessary unless the ulcer is so placed that procedure is extremely easy. The rent should be closed by suture. Often even this is not possible, either from location of the ulcer or because of the brittleness of the tissues due to inflammatory infiltration. In the latter case a portion of the omentum may be set over the rupture, or this can be closed by a sack of iodoform gauze.

In addition to the acute peritonitis set up by sudden perforation, there is a chronic peritonitis beginning as perigastritis, due probably to a very small opening closed by adhesions with neighboring parts. These adhesions gradually yield and a fibrino purulent progressive peritonitis develops, at first confined to the region of the stomach, finally spreading through the entire subphrenic portion of the peritoneum. The diagnosis of this condition is difficult. The slighter cases heal spontaneously. The operation is likely to be extremely difficult.

Probably the most frequent complication of gastric ulcer is bleeding. When a large arterial branch is eroded a search should be made for it. In but two cases this search has been successful; one of these was treated by the author. In three other cases operation was performed for the relief of bleeding. Because of inflammatory infiltration, checking of bleeding by ligation was impossible, hence the thermo-cautery was used.

In case of hemorrhage the ulcer is usually placed in positions unfavorable for intervention. Only a very large vessel is liable to lead to life-threatening bleeding, and this is generally a vessel in the substance of the pancreas. A number of cases are recorded in which it was found possible to find the seat of the ulcer. While the advisability of operation may be fairly questioned in case of sudden violent bleeding because of difficulty in diagnosis and difficulty in finding and securing the vessel when the ulcer bleeds repeatedly for a few weeks and months, there can be no question as to the desirability of operating.

Partial Abortion—Expulsion of the Amniotic Sac Alone.

American Medico-Surgical Bulletin

Dr. William C. Stevens, in the *International Journal of Surgery*, expresses the opinion that the membranes are retained in more than one-half of all deliveries occurring before the end of the third month, and during the first six weeks a larger proportion than this is retained. This opinion is based upon observed cases, and from the history of diseases clearly traceable to a recent miscarriage in which there was only a record of an excessive menstrual flow at or shortly after a regular menstrual period.

The specimens presented by Dr. Stevens are, he states, the result of letting nature take its course, and in this way he has found that in about one-half the cases all the membranes are retained, and in about 25 per cent. of the cases the amniotic sac is expelled without the chorion. In the largest specimen the amniotic sac was expelled, leaving behind a well-formed placenta.

Dr. Stevens concludes as follows:

The remote effects of a neglected miscarriage are extremely disastrous, and are not so amenable to treatment as disorders following delivery at the full period of gestation.

1. Subinvolution; owing to the imperfect development of uterine muscles, after an abortion the process of involution is slow and less perfect than after normal labor.

2. Anemia due to loss of blood, and septic infection through the slow absorption of poison from the uterus.

3. Acute and chronic inflammation of the uterus and its appendages.

4. Moles, due to retained membranes.

5. Disorders of the nervous system from local irritation.

6. Secondary infection of distant tissues.

With such an array of misfortunes confronting the victim of a partial or incomplete miscarriage, it becomes us to exert our utmost endeavors to prevent them.

First: We should educate our patients to the danger of neglecting miscarriages oc-

curing during the early months of gestation.

Second: The practitioner should neglect no opportunity to perfect himself in the science of diagnosing the period of gestation, and the age and general appearance of the fetus and its envelopes at each stage of gestation, so that he may know when the abortion is complete.

P. tience and a tampon will complete many a miscarriage, the tampon to control hemorrhage and excite uterine contractions, patience to wait for the expulsion of the membranes.

The finger may be used in cleaning out the uterus, but like instruments, it will not meet all the requirements of everyday practice. A curette should always be found among your instruments.

Absolute rest in bed for a period as long, if not longer, than at the full period of gestation, with a nutritious and easily digested diet, will restore the majority to perfect health.

A New Dispensary Abuse.

Medical Record.

A report comes to us as we are about to go to press (as the *County Weekly* puts it) to the effect that a physician has been dismissed from one of the most fashionable dispensaries in a neighboring city (of course it could not occur in New York) for abstracting a fifty-dollar banknote from the purse of a patient.

The pocketbook was left upon the dispensary desk, it is said, while the lady entered an adjoining room to prepare for examination. The plea made to the governing board by the physician was that he had been overworked, having treated over four hundred patients at the dispensary during the three days preceding the temptation which caused his fall, and that during this time he had been unable to procure but one full meal. Hunger and the means at hand to appease it may have proven too strong a combination for his overwrought nerves, but this naturally did not weigh

with the board. The *clientele* of the institution must be made to feel that while a patron is undergoing treatment his valuables are safe. The argument was used by one of the governors that, if the patients' money is to be taken from them, they might as well go to a physicians' office and be done with it.

The crime of robbing a dispensary patient cannot be too severely punished, since such acts would soon deter many persons of wealth from patronizing these institutions. It is therefore most fitting that the culprit in the present instance will be forced to take his chances for the future in private practice.

There is something to be said on the other side. It seems unwise for applicants to carry with them and display at the dispensary large sums of money, diamonds, and the like. It would surely seem to be in the nature of contributory negligence if in the future applicants for free treatment put temptation in the way of doctors, who after all are only human and often hungry.

Detection of Coloring Matter of Bile in the Urine.

The Philadelphia Polyclinic.

A brief extract in a recent number of the *American Medico-Surgical Bulletin* describes a new process for detection of bile coloring-matter in the urine. It is credited to Rasmussen in the *Hospitals-Tidende* but I have not seen the original article. The method is as follows:

One cubic centimeter of urine is mixed with the same quantity of ether; to this is added six minims of tincture of iodine and the mixture is well shaken. Upon standing the liquid soon forms into two strata; above is the ether with the iodine; below is the urine which remains unchanged when no bile is present, but takes a brilliant green when biliverdin is present.

Attempts to tests the method by using solutions of dried ox-gall (*Fel Bovis*, U. S. P.) in water and urine failed entirely, but Dr. Amelia A. Dranga obtained for me a

sample of urine from a patient presenting deep jaundice, and this gave the test excellently. The sample was deep brown in color, but when treated as described in the test the brown color passed into the ethereal layer and left the watery portion of a distinct green color. I did not find it necessary to follow the directions closely. The reaction was quite well obtained by using, instead of the tincture, a few drops of the watery solution of iodine and potassium iodide. This solution is more widely applicable as a test than the tincture, and is found in every clinical and pathologic laboratory. Sufficient ether must be added to ensure the separation of an ethereal layer which will, of course, float on the water layer.

Chloroform and carbon disulfide were tried as substitutes for ether but do not answer as well, principally because they do not take up the unchanged brown color. Chloroform added to the samples in small quantity as a preservative does not interfere with the reaction.

Perforation of the Gall Bladder.

Berl. klin. Woch.

Fuchs relates an interesting case following upon an acute cholecystitis, and successfully treated by operation.

A woman, aged 27, was seized on the fifth day after labor with severe pain in the epigastric region, and radiating into the back. The attack lasted for half an hour, but a second attack occurred a fortnight later, and was followed by slight jaundice. Two days later there was a further attack. The next attack, two days afterward, was very severe, and on the following day the patient was very ill. The abdomen was distended, and there was great tenderness and prominence in the region of the gall bladder. The diagnosis of perforation of the gall bladder with a commencing peritonitis was made. The operation was begun by Mikulicz at twenty-four hours after the onset of these severe symptoms. A fibrinous deposit was seen upon the intestines. The

greatly distended gall bladder was exposed and punctured, 40 c. cm. of a turbid, ill-smelling fluid being drawn off. The gall bladder was then opened, and the finger introduced, when an opening was found near the cystic duct leading into an abscess cavity. Thirty-four stones were extracted from this cavity. The common bile duct was distended, but contained no stone. The abscess cavity was washed out and a drainage tube inserted. The infected part of the peritoneal cavity was tamponed with iodoform gauze. The patient's progress was very satisfactory. Eleven days after the operation the drainage tube was shortened and the iodoform gauze tampon discontinued. Eventually the wound closed, so that the patient left her bed about four weeks after the operation. The author would look upon the case as one of acute (idiopathic) cholecystitis accompanied by severe septic manifestations, and complicated by perforation of the gall bladder. He would appear to think that it arose independently of the gall stones present in the case. A limited fibrino-purulent peritonitis was present. Thus the case is to be placed alongside other cases of perforative peritonitis cured by operation.

Musical Murmurs in Heart Disease and Angina Pectoris.

La Rif. Med.

Tecce draws attention to a special variety of musical heart murmurs which he describes as resembling a feeble groan or the chirping of chickens. For certain similar cases described by Capozzi, in which a constant lesion was found—namely, a regular perforation of a free valve—the author was led to diagnose such a condition in the case of a man, aged 30, who was admitted into hospital suffering from anginal attacks. On auscultation a double aortic murmur could be heard, the diastolic part of the murmur being musical, and like the chirping of chickens. The apex beat was in the fifth space, and outside the nipple line. There was no history of rheumatism, but the pa-

tient was much exposed to wet and cold. He contracted syphilis at 21. He died in one of the attacks of angina, and post-mortem the mitral valves were found normal, the aortic valves thickened, and stenosis, two cusps being adherent; third was perforated near the aortic parietes, but not adherent. The coronary arteries were healthy. The aorta was arteromatous. The author looks upon angina pectoris as a neuralgia of the cardiac plexus.

A Reliable Food.

MESSRS. JOHN CARLE & SONS, NEW YORK CITY — *Gentlemen*: I have received the "Nursing World Clinical Records" and samples of your Imperial Granum, although it was unnecessary to send the latter to acquaint me with its value, as we have a *living example in our only son* of the worth of Imperial Granum, and I have *prescribed it constantly for eleven years*, and always with the very best results.

Yours very truly,

— M.D.

Sept. 2, 1897.

Clinical Records and samples of this celebrated food free, charges prepaid, on application to JOHN CARLE & SONS, 153 Water St., New York City.

WE take the following from literature on Taka-Diastase lately issued by Messrs. Parke, Davis & Company:

"When Taka-Diastase was first produced we did not consider it probable that it could be held in solution in such a way as to make a permanent and palatable preparation without destroying the amylolytic converting power of the diastase to a certain extent. We have been experimenting in this direction, however, for upwards of a year, and early last summer found that we could make a perfectly reliable and palatable liquid Taka-Diastase. The question of its permanency could only be determined by time and

exposing the experimental batches to varying degrees of heat.

"We have succeeded in producing just what we desired, and trust that our efforts to produce a liquid preparation of Taka-Diastase, which will be found particularly acceptable to children, will meet with your approval.

"We originally instituted these experiments at the request of practitioners who had obtained satisfactory results with Taka-Diastase, whose practice being largely among women and children, often had patients complain of having to take it in powders, and asked for a liquid. Each fluidrachm contains two grains of Taka-Diastase, and, as you are aware, one grain Taka-Diastase will convert 100 grains of starch in ten minutes under proper conditions.

"Careful experiments have appeared to indicate that the proper dose for adults of the Liquid Taka-Diastase is one teaspoonful during or immediately after meals."

Ferratin in Anemic Dyspepsias.

Dr. Elbridge G. Cutler, of Boston, in an excellent paper, entitled "General Remarks on Gastric Dyspepsia," read before the Massachusetts Medical Society, June 8, 1897, and published in the *Boston Medical and Surgical Journal*, Sept. 9, 1897, advises the use of Ferratin to increase the hemoglobin. In examining the patient, "the relation or dependence of dyspeptic condition on other local diseases or general disturbances" should be found. The lungs and the urine should be examined; the hemoglobin should be examined weekly, and the patient weighed; and if diet, control of daily life, etc., do not increase the hemoglobin, then Ferratin should be used to aid the other measures.

DOCTOR:—Your library is not complete without the *Hypnotic Magazine*. Cost of this handsome monthly, including premium book on "Suggestive Therapeutics" is only one dollar (\$1.00) a year. THE PSYCHIC PUBLISHING Co., 56 Fifth avenue, Chicago.

Aseptolin.

To the Medical Profession:

It has recently been brought to my attention that several manufacturers have placed on the market certain preparations as substitutes for "Aseptolin," which have manifestly not been made strictly in accordance with my formula, as analysis fully proves. These defective solutions have not only failed in accomplishing the cure of the patient, but in many instances have caused abscesses and other harmful results. I must not be held accountable for these evils which directly result from the defective compounding of the preparation. The only preparation compounded strictly in accordance with my formula is "Aseptolin-Edson," prepared by the Asepta Chemical Co., of New York, under my personal supervision.

(Signed) CYRUS EDSON.

The World's Congress of Medico-Climatology.

OFFICE OF JOHN A. ROBINSON, M.D., PRES.,
103 STATE ST.,
CHICAGO, ILL., December 30, 1893. }

The Walker-Green Pharm. Co.: I believe I cannot close the record of the dying year in any more fitting a manner than by writing my opinion of your quartet of Six Elixirs. They are certainly palatable, safe and efficient. As a large number of my patients are consumptives, who in addition to the use of the physiological remedies, rest, diet, exercise, air and bathing, need a good general reconstructive agent. I have been induced to use your Elixir Six Hypophosphites, in lieu of the various syrups and emulsions of hypophosphites that are in the market, because your elixir agrees better with the digestive organs and seems to increase the general nutrition more rapidly. I have made it a rule of principle not to give testimonials except I have proven the preparation to be of undoubted value.

Yours truly,

JOHN A. ROBINSON, M.D.,

Professor General Medicine, Post-Graduate Medical School.

Change of Climate.

Medical Record.

The theory that tuberculosis can be speedily eradicated or more successfully treated by establishing hospitals and sanatoriums in certain localities is fallacious in the extreme. Back of tubercle bacilli are causes which are operating to produce malnutrition and a lowered vitality. The people need to be taught how to live rightly. Instead of more sanatoria, let us have schools of physiology and hygiene, and instead of introducing military drill let the public schools teach cooking and dietetics.

Climate undoubtedly exerts some influence over the processes of nutrition, but it has been greatly overrated as a curative agent in pulmonary tuberculosis.

Modern methods of scientific treatment, combined with a liberal diet of good nourishing food and several hours spent each day in the open air, are worth far more than any change of climate can possibly be to the vast majority of sufferers from this disease.

EHRLICH's *diazo test for typhoid fever* was the subject of an interesting talk and demonstration given by Dr. Riesman.

The solutions are used, which should always be freshly prepared. The following formula was given:

- (a) HCl 5
 Water 95
 Sulfanic acid to saturation.
 (b) Sodium nitrite... 0.5 per cent.

To 40 parts of *a*, and 1 part of *b* mixed in a test-tube, an equal volume of urine is added, and the whole thoroughly agitated. A quantity of ammonia water is then allowed to run down the side of the test-tube from a pipette, until it forms a layer on top. If the aromatic compounds upon which this reaction depends are present, a brilliant garnet ring is formed at the junction of the two. The contents of the tube is then thoroughly shaken, when the froth becomes a beautiful rose color.

The urine used to demonstrate the test, was from a patient known to have typhoid fever, and is responded unmistakably.

A control test was made with an unknown sample of urine. It failed to react. The ring formed was an indefinite red, and the froth was yellow. Clinicians lay special stress upon the rose colored froth, which is characteristic. One may get the garnet ring, but not the froth, and it would, therefore, not be a perfect test. Other conditions giving the reaction, are, advanced tuberculosis, advanced magignant disease, septicemia; it is apt to be present in measles, it is rarely observed in croupus pneumonia, and it is sometimes seen in acute articular rheumatism. This does not, however, make it valueless, as its presence may mean one of the above-named conditions and typhoid fever be excluded. It is *always* present in typhoid fever.—*The Philadelphia Polyclinic.*

Is the Vagina in Normal Pregnancy Aseptic?

Centralbl. f. Gynak., No. 24, '97.

Goenner has carefully investigated the normal secretion of the vagina in healthy pregnant women. He finds that it contains anæro^bic bacteria, not such as cause primary septic endometritis, but those which can be easily introduced from without. As in the case of streptococci which sets up puerperal fever, the germs in the vagina do not represent auto-infection, but are brought there by the medical attendant, the mid-wife, the nurse or the instruments. Septic endometritis, often indicated by fetid liquor amnii, may be excited by the bacterium coli.

The American Pediatric Society.

The American Pediatric Society is making a collective investigation of infantile scurvy as occurring in North America, and earnestly requests the co-operation of physicians, through their sending of reports of cases, whether these have already been published or not. No case will be used in such a way as to interfere with its subsequent publication by the observer. Blanks containing questions to be filled out will be furnished on application to any one of the committee. A final printed report of the investigation will be sent to those furnishing cases.